

REMARKS

Applicant replies to the Office Action dated October 15, 2007, within the shortened three month statutory period for reply. Claims 1-5 were pending in the application and the Examiner rejects claims 1-4 and objects to claim 5. Applicant amends claims 1 and 5 and adds new claim 6. Support for the amendments and the added claim may be found in the originally-filed specification, claims, and figures. No new matter has been introduced by these amendments. Reconsideration of this application is respectfully requested.

Section 103(a) Rejections

The Examiner rejects claims 1 and 2 under 35 U.S.C. 103(a) as being unpatentable over Takano et al. U.S. Patent No. 6,114,839 ("Takano") in view of Franklin U.S. Patent No. 5,240,022 ("Franklin"), which was not previously cited. The Examiner also rejects claims 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over Takano in view of Franklin and in further view of Darmawaskita U.S. Patent No. 6,184,659. Applicant respectfully traverses these rejections.

Applicant submits that claims 1-4 are not obvious in light of the cited references, at least because of the same reasons as set forth in Applicant's previous Reply with regard to Takano. Moreover, Franklin's disclosure of a water heater system is non-analogous art, and it explicitly states that automatic shutoff valves that continuously monitor for leaks are not desirable and would lead to adverse effects within Franklin's system. As such, Franklin teaches away from "continuously" detecting as recited in amended independent claim 1.

Additionally, it is improper for the Examiner to combine Takano with Franklin in rejecting claims 1-4. The Examiner stated in the Office Action at page 3, "It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Takano to include the teachings of Franklin." As noted in MPEP § 2143(A), "[t]he rational to support a conclusion that the claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods *with no change in their respective functions*" (emphasis added). However, in order for the teachings in Takano and Franklin to be applied to Applicant's liquid detection section, the teachings of Franklin (as relied upon by the Examiner) must be changed, and Franklin therefore does not render Applicant's invention obvious.

Specifically, Franklin discloses:

[T]he low voltage [leak] detection circuit is enabled *only* when necessary . . . It is known that applying a continuous DC potential across two metal probes (for the purpose of detecting a current flow between the two probes due to the presence of a conductive fluid) can cause a contamination of the probe surfaces and, hence, a reduction in the detection sensitivity and reliability . . . The method used in accordance with the current invention in contrast involves applying a DC potential across the detector probes *only* during the few milliseconds it takes to perform the necessary measurement . . .

(Col. 9, line 61 to Col. 10, line 12; emphasis added). Therefore, Franklin requires a leak detection system that only intermittently monitors for leaks. Further, Franklin discloses that it is undesirable to constantly monitor for leaks.

Applicant's specification, on the other hand, discloses a "liquid detection section 62 [that] includes a *constant current source* 62a, a reference voltage source 62b, and a comparator 62c. One of the inputs of the comparator 62c is connected to the *constant* current source 62a and the WET terminal 28" (§ [0070]; emphasis added). Therefore, it would not have been obvious to incorporate Franklin's leak detection circuit in Applicant's secondary battery control circuit because Franklin discloses that "the low voltage leak detection is enabled *only* when necessary," and not that "comparator 62c is connected to the *constant* current source 62a and the WET terminal 28." Thus, Franklin's functionality would need to be modified in order to function as disclosed in Applicant's disclosure.

Even if one of ordinary skill in the art combined Takano and Franklin, she would therefore not have arrived at Applicant's liquid detection section. As noted above, Applicant was able to overcome Franklin's failure to provide a liquid detection section with a constant current source. Whether or not Applicant's secondary battery control circuit would function with Franklin's leak detection circuit, Applicant would not have looked to Franklin to solve its problem for at least the reasons stated above. Therefore, Franklin does not render Applicant's secondary battery control circuit obvious, and Applicant respectfully requests allowance of amended claim 1.

Applicant respectfully submits that dependent claims 2-4 and 6 depend from independent claim 1, so claims 2-4 and 6 are in condition for allowance because they are differentiated from the cited references for the reasons set forth above in addition to their own respective features.

Allowed Claim

Finally, the Examiner objects to claim 5, which was added in the last reply, because it depends on a rejected claim. The Examiner, however, indicates claim 5 would be allowable if it were rewritten in independent form and amended to incorporate the limitations of the claims from which it depends. Applicant has herewith amended claim 5 in accordance with the Examiner's suggestions and respectfully requests allowance of that claim.

CONCLUSION

In view of the above remarks, Applicant respectfully submits that all pending claims properly set forth that which Applicant regards as its invention and are allowable over the cited references. Accordingly, Applicant respectfully requests allowance of the pending claims. The Examiner is invited to telephone the undersigned at the Examiner's convenience, if that would help further prosecution of the subject Application. The Commissioner is authorized to charge any fees due to Deposit Account No. 19-2814.

Respectfully submitted,



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